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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,109	08/25/2003	Didier Rizzotti	116598-00109	9842
27557	7590	11/12/2004	EXAMINER	
BLANK ROME LLP 600 NEW HAMPSHIRE AVENUE, N.W. WASHINGTON, DC 20037			JOHNS, ANDREW W	
			ART UNIT	PAPER NUMBER
			2621	

DATE MAILED: 11/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/647,109

Applicant(s)

RIZZOTTI ET AL.

Examiner

Andrew W. Johns

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-20 and 24-27 is/are allowed.
- 6) ☒ Claim(s) 21 is/are rejected.
- 7) ☒ Claim(s) 22 and 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/2/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to because suitable legends are required for easier understanding of the drawings. 37 C.F.R. § 1.84(o). Corrected drawing sheets in compliance with 37 C.F.R. § 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 C.F.R. § 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 U.S.C. § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 21 is rejected under 35 U.S.C. § 102(e) as being anticipated by Moore et al. (US 2003/0141980 A1).

With respect to claim 21, Moore et al. teaches an automatic fire detection method (see the Abstract), based on the recognition of flames and/or smoke from the analysis of a sequence of  
5 images (paragraph [0012], lines 1-3), the analysis being based on at least two different processing algorithms (20, 22 in Figure 1). One of these algorithms (fire detection algorithm 20) comprises a step of analyzing the variation between consecutive images in order to detect objects whose outline oscillate with a frequency greater than 0.5 Hz (paragraph [0022] the image sequence is filtered using two filters and the absolute difference between the filtered image  
10 sequences represents the movement of objects in the images between 1.25 Hz and 4.0 Hz, which is greater than 0.5 Hz), while the other algorithm (smoke detection algorithm 22; described beginning at paragraph [0101]) comprises a step of detecting the presence of new object in a portion of the image (paragraph [0106]; emerging new shapes are detected indicative of smoke). Since these algorithms correspond to the fourth and eighth algorithms defined in claim 21, the  
15 algorithms of Moore et al. meet the requirement for the use of at least two algorithms selected from the eight algorithms defined in the claim. Therefore, Moore et al. meets each of the limitations of claim 21 and anticipates the claimed invention.

***Allowable Subject Matter***

4. Claim 1-20 and 24-27 are allowed.

20 5. Claims 22-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:  
None of the prior art teaches or suggests an automatic fire detection method based on the  
recognition of flames and/or smoke from the analysis of a sequence of images, the analysis based  
on several image processing algorithms, where one of the algorithms compares the frequency  
content of at least one image of the sequence to the frequency content of a reference image to  
detect an attenuation of the high frequencies independently of variations of other portions of the  
image's spatial spectrum, as required by claim 1. Also, there is no suggestion in Moore et al. or  
any of the prior art for the use of at least three or four of the algorithms defined in claim 21, as  
further required by claims 22 and 23.

#### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's  
disclosure. Rattman et al. and Pfaff et al. each teaches the use of image analysis to detect the  
presence of smoke. The remaining references variously teach the use of image analysis for fire  
detection.

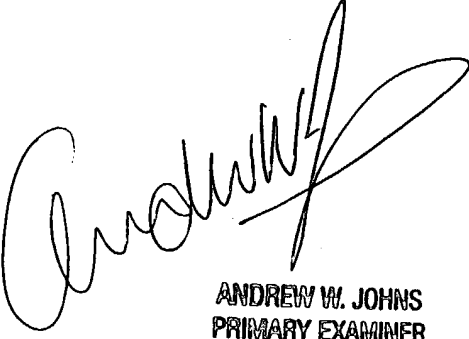
8. Any inquiry concerning this communication or earlier communications from the  
examiner should be directed to Andrew Johns whose telephone number is (703) 305-4788. The  
examiner is normally available Monday through Friday, at least during the hours of 9:00 am to  
3:00 pm Eastern Time. The examiner may also be contacted by e-mail using the address:  
andrew.johns@uspto.gov. (Applicant is reminded of the Office policy regarding e-mail  
communications. See M.P.E.P. § 502.03)

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Leo  
Boudreau, can be reached on (703) 305-4706. The fax phone number for this art unit is (703)  
872-9306. In order to ensure prompt delivery to the examiner, all unofficial communications  
should be clearly labeled as "Draft" or "Unofficial."

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center Receptionist whose telephone number is (703) 305-4700.

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A. Johns  
3 November 2004



ANDREW W. JOHNS  
PRIMARY EXAMINER